TEXAS DEPARTMENT OF WATER RESOURCES

TEXAS WATER COMMISSION

AN ORDER issuing an amendment to Permit No. 01221 held by McGinnes Industrial Maintenance Corporation

On July 13, October 31, November 1, December 5 and 6, 1978 and January 23, and February 20, 1979, Lee H. Mathews, Chief Hearings Examiner of the Texas Water Commission, conducted adjudicative public hearings concerning the application to amend Permit No. 01221 by McGinnes Industrial Maintenance Corporation, 5837 Northdale, Houston, Texas 77017. The amendment application contemplates the addition of four new sludge ponds at the McGinnes site which is located in Galveston County, and the discharge of 1,000,000 gallons per day of wastewater from the site into West Bay.

Appearing at the hearing on behalf of the applicant were: E. H. Thornton, Jr., and William L. Burnett, attorneys; Roland McGinnes; and V. C. McGinnes. Witnesses testifying for the applicant were Roland McGinnes; V. C. McGinnes; Baker Birdwell; Ina Lee Copeland; William K. Daniel; John R. Mitchell; and Edward C. Sebesta.

Opposition to the application was presented by James P. Parker, M.D.; Peter J. La Valle; D. Marrack; Kathleen Orr; F. Hermann Rudenberg; John Sealy; August O. Garabaldi; W. J. Praker; and Dr. Andrew Frost. J. S. Kittredge, William R. Lambert and William Hawes also appeared and presented testimony.

The Gulf Coast Waste Disposal Authority was represented by Roy G. Scudday, staff counsel.

The Executive Director of the Texas Department of Water Resources was represented at the hearings by Paul A. Seals, staff attorney. Witnesses for the Executive Director included Bert H. Bates, Jr.; Karen A. Macko; Homer Parker; Robert Silvus; Walter (Buck) Steingraber; and Rod Kimbro. The Public Interest Advocate, Jack M. Cox, also appeared at two of the hearings.

The Hearings Examiner designated the following as parties to the hearings: the applicant, McGinnes Industrial Maintenance

Corporation; the Executive Director of the Texas Department of Water Resources; the Public Interest Advocate of the Texas Department of Water Resources; Dr. James P. Parker; and the Gulf Coast Waste Disposal Authority.

After considering the Hearings Examiner's Proposal for Decision, the Texas Water Commission makes the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

1. McGinnes Industrial Maintenance Corporation has applied to the Texas Department of Water Resources for an amendment to Waste Discharge Permit No. 01221 to authorize the construction of four new disposal ponds and the substitution in the permit of the Total Organic Carbon (TOC) parameter for the Chemical Oxygen Demand (COD) parameter. The latter is requested because of the presence of chloride interference in the COD test.

2. The requested permit amendment does not contemplate an increased discharge over the 1,000,000 gallons per day maximum currently authorized in the permit. Wastewater is discharged on an average of 25 to 35 days per year.

3. The McGinnes disposal site is located adjacent to Carancahua Lake and the Intracoastal Canal in the L. T. Yowell Survey, Galveston County, Texas. This area has been affected by subsidence -- one-half to two feet in the last 20 years.

4. The existing site consists of 13 sludge storage ponds and two oxidation ponds. Three of the sludge ponds and one of the oxidation ponds ("final oxidation pond") were constructed in 1966; four sludge ponds were built in 1970; two sludge ponds and the other oxidation pond ("first oxidation pond") were constructed in 1973; two sludge ponds were built in 1975; and the final two sludge ponds were built in 1976. Wastewater is discharged from the oxidation pond constructed in 1966 into the Intracoastal Canal and West Bay.

5. Desirable uses of the receiving waters include contact and noncontact recreation, propagation of fish and wildlife, and navigation.

6. Waste sludges deposited in the three original sludge storage ponds were generated by the Champion Paper Company's treatment plant located in Pasadena, Texas. In 1972, the Gulf Coast Waste Disposal Authority assumed ownership of the plant and it then became known as the Washburn Tunnel plant.

7. Sludges from the Washburn Tunnel plant are barged to the McGinnes site and discharged into the sludge storage ponds. A 12-foot deep barge canal links the site with the Intracoastal Canal.

8. Sludges pumped into the sludge ponds are allowed to settle. The liquid supernatant is then routed through an internal canal system to the first oxidation pond where further settling takes place; then it is pumped to the final oxidation pond for eventual discharge into the Intracoastal Canal. Approximate detention time in each oxidation pond is six months.

9. The Washburn Tunnel plant treats influents from six industries -- Champion International Corporation, Crown Central Petroleum Company, Petro-tex Chemical Corporation, Air Products and Chemical, Inc., Arco Refinery and General American Transportation Corporation. The plant provides primary and secondary waste treatment. Treated effluent is discharged to the Houston Ship Channel and the sludges resulting from treatment are discharged into barges for transport to the McGinnes site.

10. The influents to the Washburn Tunnel plant are sampled daily for BOD, TOC, COD, heavy metals and other parameters in accordance with the facility's permit requirements.

11. The sludge is classified by the Texas Department of Water Resources as Class II waste (non-toxic, non-hazardous). The sludge was formerly classified as Class I (hazardous or toxic) but was reclassified Class II based on toxicity studies conducted by the United States Food and Drug Research Laboratory in New York City on sludge samples from the Washburn Tunnel Plant.

12. A 96-hour bioassay conducted by Edna Wood Laboratory on June 27, 1977 showed that fish (Gambusia affinis) placed in a dilution of leachates from the Washburn Tunnel plant were not visibly harmed by the leachates.

13. At the direction of the Department of Water Resources' predecessor agency, five monitor wells were drilled in 1975 at various locations around the McGinnes site. The wells are from 26 to 28 feet deep. The purpose of the monitor wells is to determine if significant leaching has occurred from the bottoms of the ponds.

14. Data collected from the monitor wells are unreliable and inconclusive because of the following factors:

a. Wells Nos. 1 and 5 have been shot through the casing tops by hunters. The Well No. 5 casing was shot off at ground level. Because of the defective casings, tidal water inflows have contaminated the aquifer.

b. The shallow aquifer underlying the ponds is brackish and salty and is of no value as a fresh water source. Good quality aquifers occur at a much greater depth, around 800 feet.

c. The digging of the Intracoastal Canal may have penetrated the shallow aquifer underlying the McGinnes site, causing salt water intrusion into the aquifer.

15. The McGinnes pond levees were constructed from 1966 through 1973 to comply with the 50-year flood cycle (12.5 feet high). The pond levees constructed since 1975 comply with the 100-year flood cycle (14.5 feet high).

16. The bases of the pond dikes or levees are constructed of a clay core of approximately 75 feet in thickness. The clay material was excavated from the interior or pond side of the levees after removal of the top two feet of organic material. The stripped organic material and other spoil was then added to the levee exteriors for erosion control. The tops of the dikes are sufficiently wide to allow a vehicle to travel along it.

17. No seepage along the exterior of the levees has been observed, and the levees are generally well vegetated.

18. There is no evidence that subsidence in the area of the McGinnes site has affected the integrity of the dikes.

19. The levees are tight and structurally sound.

20. All new levees and ponds will be constructed in accordance with plans and specifications submitted to the Department of Water Resources by Brown and Root, Inc., consulting engineers.

21. The existing ponds are bottomed in relatively impermeable clay. The four new ponds will also be bottomed in clay material. Clay soils extend to a depth of at least 20 feet at the McGinnes site.

22. Because of the impervious nature of the soil bottoms in the ponds, a small amount of water could seep into the brackish aquifer penetrated by the monitor wells in about 40 years.

23. During construction of the ponds, no seepage of water from the bottoms of the excavations was observed.

24. No interchange of tidal waters and pond waters is taking place. There are no observable cycling actions between salt water of the Intracoastal Canal and the pond contents.

25. A major hurricane would probably damage the pond levees, but there is little likelihood of any significant transport of sludge materials by flood waters from the pond.

26. Material that may be washed away by hurricane damage at the McGinnes site will not be distinguishable from or pose any greater hazard than all the other silt, sediments or debris that will result from the storm.

27. Bottom dwelling organisms exist both in the Intracoastal Canal adjacent to the existing discharge point and in the lower extremities of the McGinnes barge canal. No organisms have been found in the upper extremity of the barge canal due to the constant pertubation of sediments caused by the barge and tugboat traffic.

28. Several types of avian fauna feed in and around the area of the final oxidation pond. These include Peeps, Common Egrets, Great Blue Herrons, Terns and others.

29. Mullet and minnows live in the canals and ditches surrounding the ponds.

30. Healthy vegetation such as salt grass and cordgrass grows along the shoreline of the canals and ditches surrounding the ponds.

31. Algae and planktonic organisms exist in one of the oxidation ponds.

32. The McGinnes disposal operation is having no apparent detrimental effect on bottom dwelling organisms, fish, avian fauna and other forms of wildlife in the immediate area of the site.

33. There is no evidence of any chronic or accumulative toxicity resulting from operation of the McGinnes site.

34. Concentrations of heavy metals in the final oxidation pond are well within Department of Water Resources' requirements for discharges to tidal waters. These heavy metals are arsenic, barium, cadmium, chromium, copper, lead, manganese, mercury, nickel, selenium, silver and zinc.

35. The final oxidation pond was sampled periodically from 1969 through the present. The following parameters were measured and compared: pH, Total Residue, Suspended Solids, Chemical Oxygen Demand, and Biochemical Oxygen Demand. The data did not establish any trends that would indicate an increase in the pollutant concentration during that period of time.

36. The applicant is compliant with the discharge requirements of its permit.

37. The water quality of West Bay has been altered slightly over the last 30 years due to tidal flows bringing in pollution from Galveston Bay. The McGinnes disposal operation is having no discernible effect on West Bay.

38. In addition to authorizing the construction of four additional sludge ponds and the substitution of the TOC for the COD parameter, the permit requires sampling by composite samples; requires monitoring and reporting of heavy metals concentrations in the effluent; specifies that the sources of all sludges shall be identified; and requires that an engineering report specifying handling procedures for incinerator ash be submitted.

39. The requirement of an engineering report set out in Fact Finding 38 is based on the anticipated operation of a sludge incinerator by the Gulf Coast Waste Disposal Authority. The facility is built but not yet operational. When the incinerator becomes operational, the character of waste being directed to the McGinnes site will be changed from a watery sludge to a drier ash material, thus reducing the amount of water discharged at the site. The permit provision requiring submittal of an engineering report will establish regulatory control over the ash disposal program.

40. The McGinnes disposal site as it is presently constructed and operated poses no significant hazard to the environment.

41. If the additional ponds are constructed and maintained in accordance with engineering plans submitted by the applicant's engineer, their use for disposal of sludges will not adversely affect either the ground or surface waters of the immediate area.

42. Notice of the adjudicative public hearings on the subject permit application was published on June 22, 1978 in The Houston Post, and again on September 7, 1978 in the Galveston Daily News, a newspaper regularly published or circulated in Galveston County, Texas. This is the only known county in which persons reside who may be interested in or affected by action taken as a result of the hearing.

43. Notice of the hearing was mailed on June 12, 1978 and August 29, 1978 to persons who may be affected by action taken as a result of the hearing and to each person as required by law.

CONCLUSIONS OF LAW

1. The public hearings were held under the authority of and in accordance with Sections 26.020, 26.021, and 26.028 of the Texas Water Code, as amended, and Rules 155.04.00.001-.130 of the Rules of Procedure of the Texas Water Commission.

2. Proper and timely notice of the public hearings were issued in accordance with Section 26.022 of the Texas Water Code, as amended, and the applicable provisions of the Rules of Procedure of the Texas Water Commission.

3. There has been full compliance with all applicable provisions of Chapter 26 of the Texas Water Code, as amended, the accompanying Rules of the Texas Department of Water Resources, and the Rules of Procedure of the Texas Water Commission concerning the application for a waste discharge permit.

4. The terms and conditions of the permit meet all statutory requirements, as set forth in Section 26.029 of the Texas Water Code, as amended.

5. The permit complies with the requirements of the applicable State laws and the applicable regulations and policies of the Texas Department of Water Resources.

6. Granting the waste discharge permit would comply with the policies of the State as set forth in Section 26.003 of the Texas Water Code, as amended.

In order to effectuate the policy of the State as set forth in Section 26.003 of the Texas Water Code, as amended, and to administer all powers and duties specifically prescribed by Chapter 26 of the Texas Water Code, as amended, and all other powers necessary or convenient to carry out the Commission's responsiblities, Waste Discharge Permit No. 01221 should be issued to McGinnes Industrial Maintenance Corporation in accordance with the terms and conditions as attached hereto.

NOW, THEREFORE, BE IT ORDERED BY THE TEXAS WATER COMMISSION:

1. That Waste Discharge Permit No. 01221 be granted in accordance with the terms and conditions contained in the attached permit.

2. That a certified copy of this order and the attached permit shall be sent to all parties.

Approved, issued and effective this ____ day of _____, 1979.

TEXAS WATER COMMISSION

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Felix McDonald, Chairman

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Joe R. Carroll, Commissioner

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Dorsey B. Hardeman, Commissioner

ATTEST:

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Mary Ann Hefner, Chief Clerk